

Abstract Submitted  
for the MAR12 Meeting of  
The American Physical Society

**Magnetic phase diagram of quasi-2D quantum Heisenberg antiferromagnets with XY anisotropy** FAN XIAO, CHRISTOPHER LANDEE, Department of Physics, Clark University, Worcester MA 01610, MARK TURNBULL, Carlson School of Chemistry and Biochemistry, Clark University, Worcester, MA 01610, NATHANAEL FORTUNE, Department of Physics, Smith College, Northampton MA 01063, SCOTT HANNAHS, National High Magnetic Field Lab, Tallahassee, FL 32310 — The magnetic phase diagram of a quasi-2D quantum Heisenberg antiferromagnetic compound  $\text{Cu}(\text{pz})_2(\text{ClO}_4)_2$  [1] has been determined by experimental measurements; TN shows a strong field dependence. The data reveal the presence of a small (0.5%) amount of XY anisotropy. QMC simulations have been performed to examine the role of the anisotropy and the interlayer exchange ( $J'$ ) upon the phase diagram [2,3]. Comparison of the QMC results with the experimental phase diagram will be presented.

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[2] A. Cuccoli, T. Roscilde, R. Vaia, and P. Verrucchi. Phys. Rev. B, 68(6):060402 (2003).

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Date submitted: 27 Nov 2011

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